

Date: Thu, 17 Jun 93 04:30:12 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #739  
To: Info-Hams

Info-Hams Digest                      Thu, 17 Jun 93                      Volume 93 : Issue 739

Today's Topics:

                                 Broadcast IDs  
                 Daily Solar Geophysical Data Broadcast for 16 June  
                                 ECB Layout Software?  
                                 Field Day Power.  
                 How do you view a .TAR file (2 msgs)  
         HTX-202 146.76 birdie, was "Re: HTX-202 mods" (2 msgs)  
                 SB200 power supply problems - help please.  
                 Suggestions wanted on dual band mobiles

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

-----  
Date: Wed, 16 Jun 1993 23:09:47 GMT  
From: pravda.sdsc.edu!news.cerf.net!usc!howland.reston.ans.net!ux1.cso.uiuc.edu!  
newsrelay.iastate.edu!news.iastate.edu!pv6f14.vincent.iastate.edu!  
jeffries@network.UCSD.EDU  
Subject: Broadcast IDs  
To: info-hams@ucsd.edu

In <1vnk7m\$nu@senator-bedfellow.MIT.EDU> cthomas@athena.mit.edu (Michael T Ford)  
writes:

Hello from Iowa!

>The reg. is once per hour. And the format is: freq, call, loc.  
>There are certain variants on that. Examples of an ID are:

I believe it's might be at the top of the hour, and once every ten minutes or so. I am assuming from the towns you mention below that you're from Iowa. I'm from the Waterloo/Cedar Falls area (just south of Waterloo), and I use highway 175 to get there and back from Ames (I'm at ISU. Go 'Clones! :)).

>97.7 KGCI-FM Grundy Center  
>or if there are two transmitters:  
>1190 KDAO Marshalltown and 99.5 KDAO-FM, Eldora.

>The town has to be where the transmitter is. (Or control studio,  
>don't remember which.) In case this is a small town, you'll hear  
>something like:  
>97.7 KGCI-FM Grundy Center, Cedar Falls and Waterloo. Still the basic  
>legal ID, but w/ extra towns added on so people actually recognize what  
>state you're in.

I believe the station ID must include the city/town the station is primarily licensed to broadcast to. For example, all of the Ames/Des Moines TV stations share three transmitting towers (who shares which ones, I don't know for sure) just north of Ankeny, even though they are licensed primarily for Des Moines or Ames (as is the case for channel 5, WOI, my employer).

Also, entities like Iowa Public TV, which has 8 bazillion transmitters throughout the state but only one control point (the studios in Des Moines) must have an ID that includes the callsign, channel number, and location of each transmitter. IN other words, each of IPTV's stations is licensed for the locality it is meant to broadcast to, instead of being licensed for Des Moines.

IPTV also has translator stations which function essentially as broadcast TV repeaters, repeating the signal from the closest IPTV station. The IDs for these translators is given out only occasionally (namely, at sign-off).

I'm sorry I rambled. I just thought I'd say hi and elaborate a little on the subject.

One little tidbit about including extra towns in the ID: the first one \*always\* must be the city/town the station is licensed for.

--

Anthony Glen Jeffries  
Journalism and Mass Communication student  
Iowa State University, Ames, Iowa

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Date: 17 Jun 93 06:01:17 GMT  
From: news-mail-gateway@ucsd.edu

Subject: Daily Solar Geophysical Data Broadcast for 16 June  
To: info-hams@ucsd.edu

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 167, 06/16/93  
10.7 FLUX=082.3 90-AVG=115 SSN=011 BKI=0022 1000 BAI=002  
BGND-XRAY=A5.4 FLU1=3.6E+05 FLU10=1.2E+04 PKI=1122 1211 PAI=005  
BOU-DEV=003,004,019,015,006,004,004,003 DEV-AVG=007 NT SWF=00:000  
XRAY-MAX= B2.0 @ 1751UT XRAY-MIN= A5.0 @ 1114UT XRAY-AVG= A6.6  
NEUTN-MAX= +003% @ 0045UT NEUTN-MIN= -002% @ 1830UT NEUTN-AVG= +0.2%  
PCA-MAX= +0.1DB @ 1655UT PCA-MIN= -1.0DB @ 1910UT PCA-AVG= -0.1DB  
BOUTF-MAX=55371NT @ 1331UT BOUTF-MIN=55347NT @ 1824UT BOUTF-AVG=55358NT  
GOES7-MAX=P:+000NT@ 0000UT GOES7-MIN=N:+000NT@ 0000UT G7-AVG=+079,+000,+000  
GOES6-MAX=P:+122NT@ 1624UT GOES6-MIN=N:-066NT@ 0004UT G6-AVG=+103,-017,-045  
FLUXFCST=STD:085,085,090;SESC:085,085,090 BAI/PAI-FCST=005,005,005/010,010,010  
KFCST=1123 3210 1123 2110 27DAY-AP=010,004 27DAY-KP=2243 2221 1011 1211  
WARNINGS=  
ALERTS=  
!!END-DATA!!

NOTE: The Effective Sunspot Number for 15 JUN 93 was 46.0.  
The Full Kp Indices for 15 JUN 93 are: 3- 3o 3o 2- 1+ 2- 2- 2o

-----  
Date: 17 Jun 93 00:00:51 GMT  
From: ogicse!hp-cv!sdd.hp.com!col.hp.com!news.dtc.hp.com!srngenprp!  
alanb@network.UCSD.EDU  
Subject: ECB Layout Software?  
To: info-hams@ucsd.edu

John Reynolds (johnr@tvnews.tv.tek.com) wrote:

: I'm looking for some free or inexpensive software to do simple one or  
: two-sided ECB layouts. I'd like something that runs on MS-DOS (or Windows)  
: and is simple to run.

: What I want to do is place parts dollies, draw the traces (preferably  
: with a mouse) and print an actual size plot on a laser printer.

I've just been trying out a hot program that should do it for you.  
It's called CIRCAD. You can input the schematic, then lay out the  
PC board and do a netlist compare to check for accuracy. The program  
also has auto-route capability: enter the schematic then place the  
parts on the PCB and the program connects the traces for you.

It can output to an HPGL or DMPL pen plotter or to a PCL printer such  
as a Laserjet or HP inkjet printer. It can also input/output  
Orcad, Tango, Autotrax, AutoCAD and Gerber files. There is no copy

protection or "dongle" required. Cost is \$995 for the commercial version or \$295 for the ham version. The two versions are the same -- except with the ham version you get no support and you are not supposed to use it for commercial purposes.

The whole program is written in assembly language so it runs fast even on a slow 286-class PC. I am currently running the demo version, which limits max circuit size and does not output Gerber files. It is very easy and intuitive to use, especially if you have ever used any similar program before.

I got my demo directly from the source:

Holophase Inc.  
6191 Orange Dr.  
Suite 6173-L  
Davie, FL 33314  
800-528-6516

The ham version is available from Jay WBOVNE at 612-492-3819. I haven't called him yet -- he may have the demo version available as well.

The program author, Fred Lehman, is an old-time assembly language programmer from the early IBM days. He called me a couple times to see how I liked the program -- loves to talk. Sounds like a real "programmer's programmer."

I haven't used the program extensively yet, but it seems like a very slick program.

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Date: 16 Jun 93 04:22:30 EDT  
From: pacbell.com!iggy.GW.Vitalink.COM!wetware!spunky.RedBrick.COM!psinntp!psinntp!arrl.org@network.UCSD.EDU  
Subject: Field Day Power.  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, gary@ke4zv.uucp (Gary Coffman) writes:  
>In article <POPOVICH.93Jun15120112@cyclades.ma30.bull.com>  
popovich@cyclades.ma30.bull.com (Steve Popovich) writes:  
>>> Really, if you're using a fire tower, why not decorate it with a  
>>>couple of strings of construction lights, tastefully wound around the  
>>>exterior? :-) :-) :-)  
>>

>>Great idea, Bruce. With the antennas up on the fire tower, though,  
>>why not save the power for all kinds of other gadgets? Just mount  
>>fluorescent tubes all over the tower, and the whole thing will blink  
>>off and on in time with your Morris! You can even have QSOs with  
>>other Field Day stations who happen to be in your line of sight.  
>>Let's see...does visible light count for "Above 300 GHz", or whatever  
>>that highest-frequency ham band is? And is a QSO on this band legal  
>>for a multiplier under the Field Day rules?

>> -Steve

>

>Yes, but the detector has to be electronic. Using the Mk I eyeball  
>doesn't qualify.

No, I don't see any such rule about electronic detection in the  
FD rules, though they are a fixture in the VHF contest rules.  
The usual problem for most people is the coherent radiation  
requirement (search lights are still cheaper and easier to use  
than lasers for short distances). Don't know whether its more  
impressive to do a laser contact during the day or wait till  
night-time.

As normally used by contestors, the term "multiplier" really  
doesn't apply. It often refers to a grid square/state/country  
on separate bands. You tally these up and "multiply" them against  
a contact total. Except in Field Day, which has a contact total,  
power multiplier, and bonus points.

Still working on my VHF contest logs--what a mess with all the  
E skip and band changes. Sure beats flat conditions, though.  
11 band QRP portable :-).

Zack Lau KH6CP/1

Internet: zlau@arrl.org "Working" on 24 GHz SSB/CW gear  
Operating Interests: 10 GHz CW/SSB/FM  
US Mail: c/o ARRL Lab 80/40/20 CW  
225 Main Street Station capability: QRP, 1.8 MHz to 10 GHz  
Newington CT 06111 modes: CW/SSB/FM/packet  
amtor/baudot  
Phone (if you really have to): 203-666-1541

-----  
Date: 17 Jun 93 00:56:49 GMT  
From: att-out!cbnewsj!k2ph@RUTGERS.EDU  
Subject: How do you view a .TAR file  
To: info-hams@ucsd.edu

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Date: Wed, 16 Jun 93 18:03:50 -0800  
From: pacbell.com!amdahl!grafex!ka6etb@decwrl.dec.com  
Subject: How do you view a .TAR file  
To: info-hams@ucsd.edu

In <9306151259.AA02473@NADC.NADC.NAVY.MIL> skitch@nadc.navy.mil (M. Squicciarini) writes:

>A few weeks ago I downloaded CHURCVR.TAR. This is a schematics for  
>a receiver to copy CHU time signals. My problem is how do I  
>view the file on a DOS system??

> 73 -- marty -- nr3z skitch@nadc.navy.mil

tar files are compressed files, similar to zip or lzh.

If you cannot find a DOS uncompressor, email me and I can send you one uuencoded.

s

--

PS: If there is enough need for this, I will add it to HAM-server.

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Date: 17 Jun 93 00:09:03 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: HTX-202 146.76 birdie, was "Re: HTX-202 mods"  
To: info-hams@ucsd.edu

>  
> > : > >|> > PS: Is it normal for the 202 to have a birde on 146.760?? Maybe that  
> > : > >|> > is common?? cul  
> > : >  
> > : > >|> I don't know about normal, but mine does it too. So does a friends. It  
> > : > >|> is not picking up an external signal. BTW, it only is observed when the  
> > : > >|> rubber ducky is used, ie when an external antenna is used, it goes away,  
> > : > >|> so it seems to be an oscillation involving reactive components in the  
> > : > >|> rubber ducky!  
> > : >  
> > : > It's probably picking up some outside noise (like from a computer) and

> > : > mixing with internal noise or oscillators to produce the birdie on 146.76.  
> > : >  
> > : ...  
> > : I wonder if the antenna impedance at frequencies outside the ham band is  
> > : the key? ...  
> >  
> > This problem was explained in a previous posting by Don Montgomery.  
> > The birdie on 146.76 MHz is the 41st harmonic of the 3579.545 MHz clock  
> > oscillator used in the HTX202. It radiates mainly out of the keypad  
> > on the front of the radio.  
> >  
> > The reason using an external antenna cures the interference is that the  
> > roof-top antenna is much farther away from the keypad.  
> >  
> More data:  
> Antenna I used was not roof-top, but only 5' away, although this is  
> farther than the rubber duck.  
> While the clock harmonic is a nice theory, it has some problems.  
> At the very least, it is not the whole story. The reason is:  
> I used a scanner to monitor the signal coming from the keypad, and when  
> the htx-202 is tuned to 146.76, the signal is at 146.76, but if you change  
> the freq that the 202 is tuned to, the freq at the keypad changes too, ie  
> if tune to 145.33, that is what comes out the keypad. In fact on my 202, the  
> 145.33 signal is much stronger than that seen at 146.76 even though no  
> birdie is seen at 145.33. Ie whatever freq the 202 is tuned to, that freq  
> comes out of the keypad area, but the birdie only shows up at 146.76, so  
> while it is possible that the keypad signal is triggering the oscillation,  
> it is quite clear that the freq of the keypad signal is not responsible for  
> the birdie being at 146.76. This must be some freq dependent feature of  
> the receive circuitry. This could very well be related to the clock  
> crystal, but is not due to the clock signal coming out the keypad. When I  
> get home I'll try putting my J-pole right next to the keypad to see if the  
> keypad signal is related at all.  
>  
Still more data, partial retraction or now I'm really confused?  
Tried the above experiment with 2 other radios, and got the opposite  
result?!, ie freq of keypad signal remained constant as htx202 freq changed.  
Also tried experiment with 202 within 2 inches of J-POLE, and birdie  
was barely noticable. Am wondering if above result where freq seemed to  
change was do to interactions of the IF's / LO's of the 202 and scanner,  
whereas the 2 receivers I tried later may have had different IF's?  
Anyway, I'm still confused. It does sound like a microprocessor birdie  
though.

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Date: 16 Jun 93 20:38:46 GMT  
From: news-mail-gateway@ucsd.edu

Subject: HTX-202 146.76 birdie, was "Re: HTX-202 mods"

To: info-hams@ucsd.edu

> : > >|> > PS: Is it normal for the 202 to have a birde on 146.760?? Maybe that  
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>  
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> roof-top antenna is much farther away from the keypad.  
>

More data:

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Date: 16 Jun 93 21:38:49 GMT  
From: ogicse!hp-cv!sdd.hp.com!col.hp.com!news.dtc.hp.com!srigenprp!  
alanb@network.UCSD.EDU  
Subject: SB200 power supply problems - help please.  
To: info-hams@ucsd.edu

Re: Necessity of parallel resistors/capacitors in a high-voltage rectifier string. I claim that the resistors and diodes are not necessary or desirable.

Perry Scott (perry@fc.hp.com) wrote:

: Maybe someone can explain the rationale for the swamping resistors and  
: transient capacitors to me. The explanation given in the ARRL Handbook  
: doesn't go into detail - it just says you have to have them. Maybe we  
: have better technology now than at the time the article was written.

#### RATIONALE FOR THE RESISTORS:

The rationale for the resistors is to equalize the voltage drop across the diodes during the portion of the AC cycle that the diodes are reverse-biased. However, the resistors are NOT necessary, even if the diode leakage currents are not matched.

When reverse-biased a rectifier diode acts like a zener: As you increase the reverse voltage, the current is low ("leakage" current) until the voltage exceeds the zener breakdown when the current rapidly approaches infinity (zzzzzzzaaaaaapppp!). However, here is the key: In a series diode string, THE CURRENTS THROUGH ALL THE DIODES ARE EQUAL. Yes, the lowest-leakage diode will drop all of the reverse voltage until its zener limit is reached. But at that point, the current will be limited by the next lowest-leakage diode in the string. So long as you don't exceed the sum of all the breakdown voltages, no destructive breakdown occurs.

Result: Equalizing resistors REDUCE the breakdown voltage of the string! Assuming equal-value resistors, total breakdown voltage = number of diodes times the LOWEST voltage diode in the string. Without the resistors, total breakdown voltage = the sum of all the breakdown voltages.

#### RATIONALE FOR THE CAPACITORS:

The rationale for the capacitors is to compensate for the varying charge storage in the diodes. In effect, charge storage causes the diodes to "turn off" slowly so that reverse current flows for a few microseconds after voltage reversal. However, Perry's explanation is right on the mark:

: I observe that the on-to-off transition occurs at the top of the sine  
: wave, where dv/dt is close to zero. The turnoff time for a 1N4007 is  
: typically 30 uS. Now, the voltage at 30 uS beyond turnoff is nowhere  
: near 1 KV - more likely around 50 volts for a 2 KV supply. The fastest  
: diode in the chain will hold that.

Exactly. If anything, the capacitors might make matters worse: they will  
tend to couple extra current into the last diode to turn off.

Another problem with both resistors and capacitors is reliability.  
Equipment failure rate tends to be proportional to the number of parts:  
3 times the parts = 3 times the failure rate. If any one of the diodes  
or resistors fails, it will likely take out the whole diode string.

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Date: 16 Jun 93 16:51:11 GMT  
From: rocksanne!aladdin!chen@cs.rochester.edu  
Subject: Suggestions wanted on dual band mobiles  
To: info-hams@ucsd.edu

Any suggestions or comments on 2m/70cm dual band mobile radios would be greatly  
appreciated. I'm currently leaning towards the Kenwood TM-732A. My only  
exposure to dual band mobiles was after reading the QST reviews on the dual  
band radios so any experiences with dual band radios (including installation)  
would be great!

Thanks,  
Dan  
chen.roch817@xerox.com

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Date: 17 Jun 93 02:07:23 GMT  
From: ucsbcs1!ucsbuxa!6500hage@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <JREDFORD.93Jun10185654@cockatrice.bbn.com>,  
<1993Jun15.152850.1@fnalnl.fnal.gov>, <1993Jun15.153849.1@fnalnl.fnal.gov>  
Subject : Re: Apollo & hams (was Re: "If you believe they put a man on the moon")

Maybe the radio transmissions didnt come from the moon at all, but c  
came from a high altitude aircraft or earth satellite.  
it would require a triangulation to demonstrate origination from the moon, or  
something to that effect.

-----  
Date: (null)

From: (null)

If you have FTP access, connect to oak.oakland.edu, change directory to /pub/msdos/filutl, and download tar.zip. This should do the trick.

73,

Bob K2PH

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Bob Schreibmaier K2PH | UUCP: ...!att!mtdcr!bob  
AT&T Bell Laboratories | Internet: bob@mtdcr.att.com  
Middletown, N.J. 07748 | ICBM: 40o21'N, 74o8'W  
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End of Info-Hams Digest V93 #739

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